

# CRM BULLETIN

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## PRIP Helps Preserve Artifacts at Klondike Gold Rush NHP

David L. Cohen



Going to gold fields via the Chilkoot Pass.

With cries of "Gold! Gold in the Klondike!" there unfolded in the Yukon and Alaska an incredible historic adventure, one in which human endeavor in the face of adversity captured the imagination of people all over the world. The fascinating story of the Klondike Gold Rush of 1897-98 is commemorated by a ribbon of historical parks that stretches from Seattle, Washington, to Skagway, Alaska, through Dawson City, Yukon Territory, and beyond.

More than any other scene of the gold rush, the Chilkoot Pass has come to symbolize the Klondike stampede. The snow covered pass, with a string of hundreds of packers inching its way up the treacherous incline, remains in our minds as the most dramatic scene of the gold rush.

Klondike Gold Rush NHP was established in 1976 to commemorate the stampede and to preserve the towns and trails that led to the gold fields. The Chilkoot Trail is but one part of this preservation effort.

During the summer of 1982, two projects were undertaken to begin preservation of the objects along the 16 1/2 miles of the 33-mile long Chilkoot Trail found in Alaska. (The trail's remaining 16 1/2 miles are in

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## Major Strides Made with NCR's Collections

Pamela B. West

In the past year, the National Capital Region has made major strides in accountability for its museum collections. These valuable and irreplaceable collections consist of objects such as mini balls, paper documents, metal objects, and historic furnishings. They also include archeological artifacts that range in size from potsherds to

canal lock gates. All of these objects must be accounted for by law; and this is accomplished through catalog cards containing information on individual objects as well as individual identifying numbers.

Under the direction of Regional Director Jack Fish, a deadline was estab-

lished to have all historical objects in the region cataloged by July 23, 1982. Meetings were held and instructions sent to the parks. Daily

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# The Collections at Hubbell Trading Post

Elizabeth Bauer

Hubbell Trading Post National Historic Site, located on the Navajo Reservation in northeastern Arizona, was established in 1878 by John Lorenzo Hubbell. It remained in family hands until 1967, when Congress authorized its inclusion in the National Park System. Today, the Trading Post continues to serve the Navajo community while at the same time preserving a segment of the area's history.

When the Trading Post came under Park Service administration, approximately 100,000 items had been accumulated by the Hubbell family. The collection includes more than 500 woven baskets, 200 Navajo rugs, and drawings and oil paintings by such noted Western artists as Joseph Sharp, E.A. Burbank, and William Leigh. In addition, the Service obtained numerous household accessories, furniture, books, and more than 80 years worth of "miscellaneous accumulation."

The curatorial problems encountered at Hubbell are those experienced by most museums: inadequate storage; lack of accountability; and the need for cataloging, conservation, and environmental control. Major emphasis has been placed on storage. In FY 78, Cultural Resource Preservation Fund money was used to increase space from 480 square feet to more than 2,000 square feet. With the purchasing of additional cabinets, shelving, rolling painting racks, and archival quality supplies, objects in this area have been sorted according to type and placed in a permanent location.

Even with the increase of storage capacity, there still is not enough room to adequately house the collection. Some objects, such as large metal objects, wagon parts, and a few furniture items, have been sorted, covered, and temporarily stored in the barn. One outbuilding is still

filled with items that have never been sorted. Piles of unsorted metal objects are located outdoors. Farm equipment outside in the barnyard is deteriorating from exposure to sun, sand, wind, and snow. Plans call for moving these items into the barn in an attempt to slow their deterioration until an additional storage facility can be provided.

Approximately seven percent of the collection has been cataloged according to Park Service standards. With such a small percentage of the collection documented and with such a large number not having been sorted, accountability for the collection is impossible. To have some type of control, an object/name inventory by location has been established. But before this can be completed, cataloging, a major time consuming activity, must be completed; and with current personnel limitations, time will remain inadequate for the job.

A darkroom, now under construction, will be used to process documentary photographs of objects and to generate negatives for the 3,000 historic photographic prints in the collection. Working print copies will also be provided for use by researchers and the interpretive staff.

In addition to storage and accountability, much energy and money have been directed toward solving major conservation problems. Again, due to Cultural Resource Preservation Fund monies obtained in FY 78, contract conservation was possible. Contracting was judged the most practical way to proceed since both facilities and expertise were lacking at the site. This course of action has proven satisfactory. Most furniture and oil paintings in the collection have been treated, as have some photographs and ethnographic items. However, finding

qualified conservators within the Southwest area, transporting objects to and from the conservators' laboratories, and coping with what seems inordinate amounts of time for the conservation work to be completed are drawbacks that had to be overcome. After major conservation work has been completed, minor projects will be accomplished on site.

Environmental conditions that cause preservation problems in exhibit and storage areas will be corrected by means of environmental controls. However, these controls are difficult to achieve in public areas. Objects are on permanent display in the Hubbell Home and in the Trading Post. In the Home, visitors are conducted on escorted tours, and the environment in the building remains fairly constant due to thick adobe and mud construction. However, the Trading Post is another story. The constant stream of visitors and local Navajo customers in and out of the building generates a steady opening and closing of doors, which in turn generates changes in temperature and humidity and the accumulation of dirt and dust

There is no air conditioning in the summer, and the open windows and electric fans blow air and dust in from the unpaved parking lot. During summer storms, the relative humidity can increase by as much as 20 percent in two hours. In the winter, hygrothermographs have recorded daily temperature fluctuations of up to 30 degrees. The park plans to remedy these problems by making door and window fittings tighter, and by installing appropriate controls to at least lessen the wide fluctuations in temperature and humidity, and to minimize dust levels.

Many display items in the Trading Post, as well as in the Home, are be-





*Part of the Hubbell Trading Post collection.  
Note objects displayed from ceiling.*

ing exhibited, using damaging techniques. More than 400 baskets in these two buildings were originally attached to the ceiling with a nail through their centers. In the Trading Post, pitch-covered Apache water jars are hung from original hair handles; and items such as dance anklets, Anasazi saddles, World War I helmets, saddles, and saddle bags are hung from nails. Ways must be devised for exhibiting these items in their historical context without damaging them or visually interfering with them.

Overall, the maintenance of the collection is under control. The park

has been fortunate that many improvements have been possible. In a historic area like Hubbell, the objects are as much an integral part of the site as the historic structures themselves, and their preservation must be an integral part of the Park Service's mission.

CRM

The author is Museum Curator, Hubbell Trading Post National Historic Site.

#### MAJOR STRIDES cont.

questions were answered over the telephone or through visits to the parks by the regional curator. All NCR parks had to accomplish a great deal of work to meet the deadline. Inventorying and cataloging over 10,000 objects placed a strain on both park budgets and work loads. Cataloging required actual handling of the object, measuring and numbering it, and writing down documentary information which included the history of the particular object. This process required approximately one half-hour to complete on a minimal basis. Because of the time involved in typing the large number of cards, many parks contracted out the typing, while others used their own administrative and curatorial staffs to type them.

During this busy period, many parks mobilized their interpretive staffs to assist the curatorial personnel in inventorying and cataloging the objects. The Harpers Ferry Center's Division of Museum Services assisted the staffs at Harpers Ferry Park, West Virginia, and Antietam National Battlefield, Maryland, with inventorying, accessioning, and cataloging objects. They also rehabilitated the storage area at Antietam to accommodate proper storage of that park's museum objects. The regional curatorial staff assisted at the Frederick Douglass Home, the Clara Barton House, and Manassas National Battlefield. They, too, accessioned and cataloged thousands of objects.

The end product satisfied not only the regional requirements, but gave park staff an overall awareness of the amount of time and knowledge required for proper collections management. Over 10,000 museum objects were cataloged during this period, and parks have taken a new look at how their collections can and should be used. Proper accountability for museum objects has been a primary thrust for NCR, and we expect to advance even further this winter when we begin to transfer information from the catalog cards to data processing equipment and computerize our yearly property accountability inventories.

CRM

The author is regional curator for the National Capital Region.

# The Care and Preservation of Sound Recordings

Leah Burt

The curatorial care and preservation of sound recordings requires by its very nature the kind of special attention a document or photograph collection does not. Not only must the curator come to grips with the arrangement and storage of artifacts, but he or she must either develop or monitor the system by which sound retrieval is accomplished. In other words, both the physical object and sonic content of the recording must be considered during the preservation process. This article discusses the curatorial care of Edison sound recordings, taking into account both their chemical and physical properties, so that indepth study of their proper preservation and storage techniques can be made.

The staff at Edison National Historic Site is primarily concerned with recordings of Edison manufacture. These span the years 1888-1929, with a corresponding variance in both recording format and composition:

<u>Year</u>	<u>Format</u>	<u>Composition</u>
1888-1890	Cylinder	Carnauba, ozocerite wax
1890-1903	Cylinder	Carnauba/ceresin/montan wax, stearic acid
1903-1912	Cylinder	Carnauba/ceresin wax, stearic acid
1912-1929	Cylinder	Celluloid/plaster-of-paris
1912-1929	Disc	Wood flour, phenol resin blank with Condensite varnish exterior
1927-1929	Disc	Epidote/shellac

Given the chemical composition and physical characteristics of early Edison cylinders, a curator can develop a plan for storage and handling. The crucial components are the varied waxes. Waxes require a humidity between 40 to 60 percent and a temperature gradient of 14 to 24 degrees C,

since they are prone to mildew and temperature fluctuations.

In October of 1912, the Edison Company introduced the unbreakable 4-minute Blue Amberol cylinder. Celluloid tubing 4 feet long, strengthened for repeated use with a core of ribbed plaster-of-paris, comprised this new blue cylinder (and it was indeed blue, colored by Methyl Blue BB from Heller and Merz). The more durable celluloid surface dictated the use of a diamond stylus for playback, rather than the previous sapphire stylus engineered for the wax composition cylinders.

In 1869, J.W. and I.S. Hyatt created celluloid (the first synthetically produced plastic) as a substitute for ivory, then in short supply. Edison obtained his celluloid tubing from the Hyatt Brothers' Celluloid Manufacturing Company, in Newark. Unlike a thermo-setting plastic which is an

aggregate of long molecules of reactive condensation groups, capable of molding only once, celluloid is a thermolabile plastic, capable of being shaped repeatedly upon application of heat and/or pressure. It is made from cotton linters converted to

cellulose nitrate and plasticized by means of camphor.

Cellulose nitrate plastics are characterized by easy workability, excellent colors, water resistance, and toughness. Light and heat decompose this material after long periods of time. Thermolabile or thermoplastic materials are solid when cold, and soft or moldable when hot; temperature plays an important role in storage techniques.

The inner core of these Blue Amberol recordings is plaster-of-paris formed from gypsum crystallized when heated above 100 degrees C. Mixed with water, the small plaster-of-paris crystals form long crystalline needles which grow together, forming a solid mass. Moisture, more so than temperature, affects plaster-of-paris. Lab tests made on the expansion of a plaster-of-paris core of Blue Amberol cylinders show that complete immersion in tap water produces a 6.5 percent expansion. True, complete immersion is unlikely during normal usage and storage, but absorption and desorption of water in the plaster-of-paris layer can strain the seam of lamination, gradually loosening the core from the sound modulated layer. This shift in moisture content also changes the inside diameter of the cylinder, making it impossible to slip onto the playback mandrel. Furthermore, cellulose plastics tend to become brittle when their moisture is removed. Here again, it can be deduced that stable temperature (14 to 24 degrees C) and humidity (40 to 60 percent) are fundamental in cylinder record storage technique.

Touching the sound grooves on cylinder recordings can deposit oil and grime into the sound modulations. Handling the recording by inserting the first two fingers of the hand within the inner diameter of the cylinder contri-





*Separation of layers of a laminated Edison Diamond Disc record. Sound modulated layer also shows cracking.*

butes simply yet effectively to the preservation of sound quality. In addition, cylindrical recordings should be stored on end in individual cylindrical cardboard boxes with lids and bottoms--either original or custom manufactured to slip-fit the outside diameter of the record. Partitioning a single layered box into 50 slots to hold these cardboard containers will further enhance their life expectancy. Storage of this 50-record box on open shelving makes for easy retrieval through clear, concise labeling on the box exterior. This method of storage keeps records free of dirt and dust and provides even temperature and humidity conditions throughout.

The year 1912 saw the introduction of the first disc record into the Edison record industry. This commercial Diamond Disc was almost fully 1/4-inch thick and almost unbreakable. It too was a laminated product, with a powder blank core sandwiched between two Condensite varnish layers.

In addition to amenable environmental surroundings, disc recordings also require careful consideration before shelving. Storage of all disc recordings should be on edge, at right angles to the shelving rather than acute angles. Permanent vertical spacers help keep records exactly vertical.

Horizontally stacked storage of discs is not recommended because: 1) re-

trieving records off the bottom subjects uppermost recordings to wear and tear, and 2) the combined weight of the recordings can crush records toward the bottom of the pile.

Heavy duty shelving is a must; the accumulated weight of an audio collection can be considerable. Furthermore, no disc should extend beyond the shelf margin.



*Original shipping can for an Edison cylinder wax master. Label handwritten in pencil, secured with thumb screw.*

Any disc recording should be thoroughly cleaned with a damp cloth and dried with a soft one before inserting them into their appropriately sized Kraft paper sleeve or jacket. Dirt, dust, mold, or other extraneous material on the sound grooves can have only a detrimental effect on an unused record. A mild, soapy solution may help remove stubborn dirt. In any case, rubbing should be done in the direction of the grooves and not across them. With Diamond Discs, keep the edge of the center hole free of cleaning water, since the wood flour composition core readily absorbs moisture.

Finally, playing back the recording is an integrally significant part in its monitoring and upkeep. At Edison, only staff members or sound researchers perform this delicate function. Indeed, sound must be closely monitored by responsible staff members, for it has considerable bearing on the ultimate condition of the recording.

Such monitoring is really the subject for another report. Nevertheless, a person cannot look at the multitude of Edison recordings and feel anything but respect for the complex and tireless work which has salvaged something as delicate and ephemeral as sound.

#### CRM

The author is a Curator at Edison National Historic Site.

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# Conservation of Dugout Canoes at Nez Perce National Park

Charles Patterson

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In March of 1982, a conservation survey of three dugout canoes was conducted at Nez Perce National Park by the Rocky Mountain Regional Conservation Center, Denver. In planning its new museum and exhibition center, the park examined the condition of the canoes and their durability for exhibition. Recommendations for their handling and storage were considered, and the survey also determined whether any conservation treatment was needed to preserve the canoes. Used by the Nez Perce for fishing and transportation in the 19th century, the canoes varied in length from 20 to 30 feet. Each was made of a different wood from a single tree trunk. Evidence of adzes, chisels, and burning during their manufacture could be seen.

All three canoes were in poor condition. Abandoned on a river bank for years, they had been subjected to extreme weathering. Surfaces had become a silvery gray, and vessel bottoms had suffered the most deterioration from constant contact with the damp soil. Water and soil on the flooring had encouraged the growth of plants and fungi. Large splits in the bottoms and sides as well as warping had occurred. The surfaces were powdery and spongy with many small, loose fragments. Several storage boxes were filled with pieces that had already fallen away. In addition, two of the canoes had not only been ravaged by the elements, they had also been stored apparently for some years in a local barn where chickens had added their own layer of history.

Although reasonably manageable on water, the weight of these vessels would have made them difficult to move on land. Also, in their present condition, splits and rotten areas would have contributed to their collapsing under their own weight if moved. To prevent this collapse, a heavy jute net for support was slipped under their entire lengths. With park employees positioned at three foot intervals along each side, the canoes were cradled in the nets, then gently lifted and moved, their weight distributed more evenly. Low dollies used later in conjunction with the net helped assure safe handling.

The intended usage of each canoe was to be different. Therefore, although all three canoes were in a similar state of deterioration, recommendations for treatment of each one, by necessity, were different.

One vessel had been placed on loan already to another Park Service museum, where a very elaborate and expensive display case protected it from

handling by the public. This display method had maintained the total integrity of the piece, i.e., no preservatives had been added which might affect its appearance for future analysis. The case, however, though well designed, was hampered by the practical limitations of glass size, and the case's several wooden divisions broke up the view. With only the aesthetics of the canoe's display in question rather than its conservation, no further treatment was considered essential at this time. It was suggested that a support running under the length of the vessel be added when practical to do so.

The other two canoes are a part of the new museum at the Nez Perce National Park. One was to be exhibited in the main lobby while the other was to be stored as part of the study collection. It was the curator's intention that both be safely available to the public. A display mount had been designed which would protect the piece on exhibition behind a plexiglass barrier while not breaking up the view of its total length. The shield was to be attached to cradle-like structures which passed under the canoe at fixed intervals.

Both canoes, however, present ongoing problems with regard to cleaning and fragility. The numerous splits, warps, and detached pieces were very distracting and made it difficult to visualize either canoe in its entirety. Fungus, mud, leaves, trash, and chicken droppings added to the confusion. Even with the canoes cleaned and the puzzle of loose pieces fit back together, future dust removal would continually remove surfaces. It was also apparent that, even now with minimal handling, substantial fragments were falling away.

Based on recommendations made during the survey, it was decided that only minimal conservation treatment was necessary. First, the canoes were cleaned and made ready for exhibition or study. This involved the removal of all extraneous matter in such a way as not to damage the original surface. Possibly active fungi were treated so that they would not spread in the exhibition areas or in storage. Where possible, missing pieces were replaced. Split and warped sections were realigned or stabilized. Second, the surface was consolidated or strengthened in such a way that it could be safely cleaned in the future by museum personnel. The treatment was selected so as not to alter the beautiful weathered patina. Third, a safe system of support was considered which would be suitable for ex-



hibition and storage, and would facilitate the movement of both vessels when required.

The museum offered no well-ventilated area suitable for any of the many possible treatments involving potentially harmful solvents. This was a major consideration because of the enormous amount of wood surface to be treated and also because the degraded wood, much like a sponge, would absorb vast quantities of consolidant. Research in Canada had favored a consolidant with desirable properties such as reversibility, little color change, and a high increase in strength. It was similar to one already in frequent use at the Rocky Mountain Regional Conservation Center except that it could be used in a low toxicity alcohol solvent. Therefore, a 5 to 10 percent solution of Polyvinyl/butyrals (B-90) was chosen for the consolidant.

After approvals were obtained from regional officials, conservators at Harpers Ferry Center, and the Director, supplies of chemicals were duly ordered and delivered to the site. A conservator (full of optimism and confidence) was sent from Denver carrying all the tools, notes, and small supplies needed for the project in his luggage. As could have been predicted, the airline company lost the luggage and took several days to locate it. Thanks, however, to the resourcefulness of several park employees, needed supplies and equipment were located in the local high school chemistry lab and at building and catering suppliers in the area.

A second complication developed when the consolidant was tested on a small fragment of wood and dried to a snow-white film. A few frantic telephone calls later revealed that the alcohol solvent contained too high a water content. The addition of a small amount of xylene to the formula produced perfect results.

From this point on, all went according to plan. The first canoe was removed from storage to a work area with proper ventilation, where the vessel ultimately will be placed in a non-traffic area for permanent storage. The second canoe, resting on the floor in the museum lobby, was easily moved through double doors onto a covered porch. This canoe, with large sections of its sides split away from the base, proved far more fragile than the first. Its split pieces had to be carefully handled while the canoe was being moved.

The first step in the treatment of both canoes was basically the same.

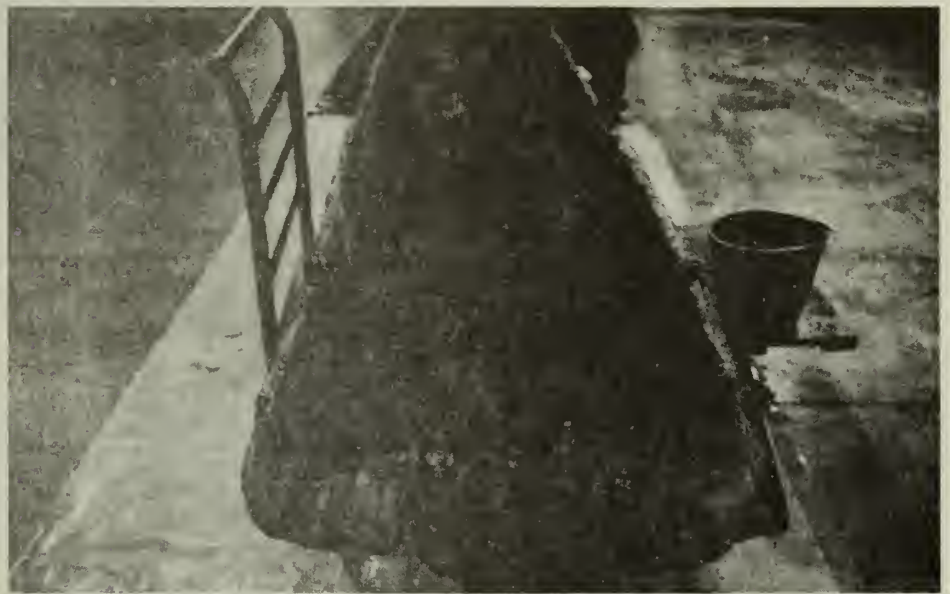
They were painstakingly cleaned so as not to damage the weathered surfaces. Layers of packed leaves, soil, fungus, and other debris were carefully coaxed loose and then brushed gently away. The improvement in appearance was amazing.

The second treatment was designed to kill fungal spores which might later be a problem. The consolidant alone should have accomplished this, but badly affected areas were treated with a fungicide to be doubly sure.

After the canoes were clean, consolidation with the B-90 began. At least one coat was applied to all surfaces with virtually no color change; yet, the surfaces became considerably stronger and could be brushed and vacuumed without damage. Additional

significance. Conservation had done all that was possible, ethically, to strengthen the specimen; it now needed very specialized display mounts for safe exhibition. After a great deal of discussion and soul searching, it was decided that, given the existing display mounts and the differences in condition between the two vessels, the stronger canoe would go on exhibition initially. Later, when the mounts could be modified, the canoes would be reversed.

Low dollies, which fit exactly between the display mounts so that they can be moved easily and still have the requisite structural support, will be used. Padding on the dollies will allow the support to conform more adequately to the irregular contours of the boats.



*Nez Perce canoe being moved. Note deterioration.*

applications were made to the flooring of each canoe and to sections showing real problems of weakness. Pieces of the vessels were easily sorted since the wood was unique to each craft, and were then glued in place.

Finally the question of display/storage supports had to be faced. One canoe, four feet shorter than the other, was much stronger structurally and the display mounts were made to support it. The longer and more fragile canoe was very dependent on a display cradle to hold its collapsed bow in position. This, however, was the canoe that the curator wanted to exhibit because of its more sophisticated manufacture and greater cultural

In conclusion, no dramatic aesthetic changes were made. Both canoes are now clean and look cared for, but both still have that weathered and ancient appearance. Both can be cleaned by gentle brushing and vacuuming. There is no question that both remain extremely fragile, (although treatment has strengthened them); but with careful exhibition and storage procedures, they should endure as a testimony to the history of the people that made them.

#### CRM

The author is Chief Conservator of the Rocky Mountain Regional Conservation Center, Denver.

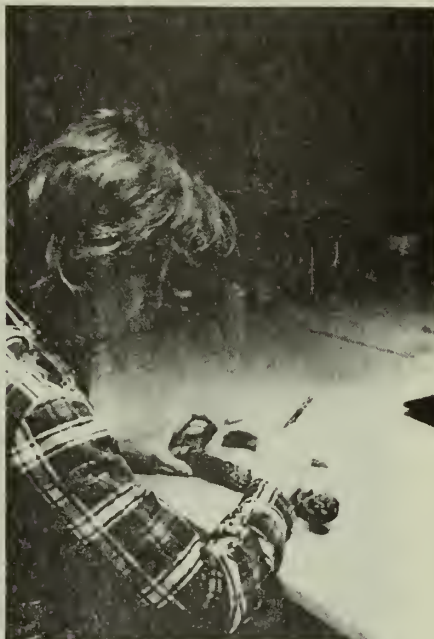
# Seneca Archeology Lab: A Multi-Site Laboratory

Lysbeth B. Acuff

The laboratory at the Seneca Archeology Office processes artifacts from multiple sites at one time, differing from a typical lab which handles artifacts from one project only. A part of the Denver Service Center's Branch of Cultural Resources, Seneca Lab efficiently processes the multitude of artifacts returned from parks within the National Capital Region. The lab cleans, identifies, documents and preserves them in time to make way for the artifacts from the next project. The investigating archeologist is given updates as the artifacts are identified as well as access to the materials for study and comparison. The prime advantage of the "central lab" concept, aside from timeliness, is the standardization it lends to the identification and description of material recovered from archeological sites.

Supporting the restoration and planning activities of the National Capital Team creates a multiplicity of projects for Seneca Lab. Artifacts from several sites may be up for curation simultaneously. Some of these projects are multiyear, such as the continuing work at Harpers Ferry National Historical Park. Others are as short as a month or two, as in the case of the archeological surveys of Wolf Trap Farm Park or the North Branch area of the Chesapeake and Ohio Canal. The types of projects vary also, encompassing such areas as history, prehistory, full-scale excavations, surveys, and monitoring. Considering the number of artifacts, keeping adequate records in the lab is of primary importance. To minimize confusion and expedite the flow of artifacts, certain procedures have been instituted.

An artifact goes through four or five stages, all of which must be monitored to prevent loss of provenience information. Bag numbers are assigned in the field to keep track of incoming



*Metal artifact treated for conservation by archeological aide Maureen Malloy.*

material, with a master list maintained for each site. Both the bags and bag lists carry all provenience information, plus date of excavation and initials of the excavator. As the artifacts are washed and dried in the lab, either the bag itself, or the bag number or site name is kept with them. During the washing process, artifacts needing conservation are given to the conservator, along with provenience information and bag number. The conservator also keeps a master list of artifacts, including the dates when received and the dates when released to the lab supervisor.

After washing, the artifacts not released to the conservator are rebagged

and labeled. Each artifact carries the site initials, excavation unit number, stratum, level, and artifact number. Excavated bones are labeled and bagged separately for faunal analysis. Water flotation is also done with retrieved seeds and other vegetal materials sent out for analysis.

Under the direction of the lab supervisor, the artifacts are then analyzed and coded. The Seneca Artifact Taxonomy serves as both an inventory and an analytical device, speeding artifact description and analysis along stylistic and functional lines. When the analysis and coding are complete the artifacts are boxed according to provenience and group or material for study by the investigating archeologist writing the site report.

Following the completion of the site report, the artifacts are returned to their appropriate parks or to the regional storage depository. Boxed separately, they are divided into four categories according to probable use. This procedure generates an archeological collection that meets park needs for display, interpretation, and study. The parks or the regional repository then have the responsibility to catalog, store, and periodically inventory the collections according to the standards outlined in the Manual for Museums, and Museum Handbook.

An artifact goes through four to five processes while in the lab: washing, labeling, possibly conservation, coding, and data entry. By using these procedures and maintaining accurate records, the curation of artifacts in a multisite lab can be safely and expeditiously handled.

## CRM

The author is an Archeologist at the Seneca Archeology Lab.



# Museum Storage Visitor Gallery is Dedicated at Golden Gate NRA

Diane L. Nicholson



*Visitors' Gallery, Golden Gate NRA. On the left, collections displayed through a series of windows.*

On October 15, 1982, formal dedication for the Museum Storage Visitor Gallery was held at the Golden Gate National Recreation Area. The Gallery is a new concept in visitor access for the National Park Service, although several museums around the country have been experimenting with the concept, that of visible storage. This dedication marks the culmination of three years of work in making the park's collections accessible to the public.

In 1979, the first floor of Building 315, lower Fort Mason, was chosen for museum specimen storage, because it was a secure, fireproof warehouse which easily could be adapted for the Gallery. (No small factor in its selection was its availability.) With the assistance of Harpers Ferry

Center's Division of Museum Services and the regional curator, the Young Adult Conservation Corps renovated the building's interior space. This work included building walls, constructing shelves, installing painting storage racks, and building the Visitor Gallery and display case.

The visitor is able to see various types of objects stored on shelves. Standard specimen cabinets are placed along the walls. The fine arts specimens are stored on moveable metal racks so that the paintings on view can be changed without having to handle the objects. In addition, various objects are displayed on glass shelves in a display case that also serves as the window to the shelved storage. Currently, there are displays highlighting the park's history,

Victoriana, the Maritime collections, coastal defense, and Alcatraz Prison. On the walls are historic photographs, a few artifacts, and three framed posters. All in all, the displays are very simple and designed to be easily changed.

The formal dedication, attended by about 100 people, included dedication of the new J. Porter Shaw Library of the National Maritime Museum. F. Ross Holland, Jr., Associate Director, Cultural Resources Management, Washington, gave the keynote address. A reception and viewing of the Library and Visitor Gallery followed the formal ceremonies.

## CRM

The author serves as Registrar for the Golden Gate National Recreation Area.

*Storage area, Golden Gate NRA.*



## ATTENTION!

The Commission on Museums for a New Century, sponsored by the American Association of Museums (AAM), is charged with offering recommendations for American museums over the next 25 years. The Commission has requested the Service to provide input into this evaluation process. Within the next few weeks, information will be sent to the regions requesting comments on issues of concern for the museum profession, and areas of opportunity for museums in the future. If you are interested in offering your thoughts on these subjects, contact your regional curator for more information.



*Independence Hall.*

The National Park Service has allocated funds from the Cultural Resources Preservation Fund to initiate an in-depth "Preservation-Environment Study" at Independence Hall. A pilot project, the program will develop preservation criteria for other NPS buildings with problems similar to those at Independence Hall.

The program was first discussed in January, 1982, at a Mid-Atlantic Regional Office workshop entitled "Energy Conservation in Historic Buildings." Hugh C. Miller, Chief Historical Architect, WASO, observed a need for more active monitoring and control of temperature and humidity in historic buildings. Such a study,

# Independence Hall Preservation - Environment Study

Lawrence Klock

he indicated, would help develop standards for protecting the buildings and their collections. Mr. Miller suggested a model site be identified for initiating the monitoring program. In response, John Duran, Servicewide Energy Coordinator, WASO, supported a cooperative pilot program for the development of energy/temperature/humidity management standards. He also suggested developing a framework tailored to park specific conditions. After a subsequent visit to Independence Hall, Hugh Miller and Ann Hitchcock, Chief Curator, WASO, succeeded in earmarking funds for the study.

Preserving historical artifacts has been an ongoing dilemma for the Park Service. Some artifacts can be protected by placing them under glass and controlling the environment within the enclosure. When this approach is not possible or desirable, the entire environment surrounding the artifact in the room or structure must be controlled. Such is the case at Independence.

Independence Hall presents an opportunity to study the environmental con-

trols necessary to prolong the life of both the artifacts within the building and the building itself. The study will: 1) monitor the temperature and humidity for one year; 2) study existing literature on recommended environmental controls for historic structures and museum objects; 3) determine the nature and cause of deterioration of the structure; and 4) recommend environmental conditions that will optimize the preservation of the structure and the objects while conserving energy. The study should determine whether or not environmental conditions maintained for museum objects in Independence Hall damage the building. The establishment of environmental control standards for the building should effectively harmonize structural with artifact preservation. The methodology and standards will have Servicewide application when adapted for various climatic conditions and fabrics.

The scope of work for the study will be conducted as follows:

I. Establish and define current standards.

## PRIP AT KLONDIKE cont.

Canada.) PRIP monies funded the inspection of artifacts by a contract museum conservator and the production of a Preservation Guide to the objects in situ. Regional cultural resources funds financed the employees hired to document representative examples of the thousands of objects lost or discarded by the stamperders.

Several questions had to be addressed before field work started. Were the objects to be collected or left on site? Should they be cataloged into the park collection or separately documented? Would standard Park Service numbering paints work in the field and last? Could the park assure

protection once the objects were cataloged?

In the end, the park staff decided to accession and catalog all objects as if they were to be placed in the Park Museum collection. Because the Park Service does not have ownership of the artifacts (management authority only), all objects were presumed to stay in their original locations. To document exact locations and descriptions, each object was thoroughly described, photographed, mapped, and located by compass bearing and distance, using fixed ground points.

The museum conservator undertook field examination of the objects in sections. Before visiting each section, a representative sample of the artifacts was flagged, making

location easier. Soil, vegetation, and artifact samples were collected for later testing. The results of these field examinations will help produce a guide to preservation of the objects.

A two-person crew spent the summer documenting representative samples of artifacts in the field. Three hundred objects were cataloged over the 16 1/2-mile Chilkoot Trail in Alaska. Because of the thousands of items, including evaporated milk cans, broken bottles, and decaying wooden objects, only the best preserved artifacts were cataloged. As time allows in succeeding years, more objects will be added to the inventory.

Problems unique to on-site documentation were constantly encountered as



- A. Develop a list of items to be preserved.
  1. Architectural fabric.
  2. Artifacts and furniture.
- B. Define environment required to be maintained for each preserved item and group of items. Group items by location and type of material.
  1. Architectural fabric. (internal & external).
    - a. Wall covering: wood, plaster.
    - b. Metal.
    - c. Carpeting, draperies, tapestries.
  2. Artifacts and furniture.
    - a. Paintings, sculpture, other artwork, and organic materials.
    - b. Metal, silver.
    - c. Stone, ceramic, glass.
    - d. Paper.
    - e. Fabric.
    - f. Draperies.
    - g. Carpeting.
    - h. Leather.
    - i. Wood.
- II. Observe and monitor environment for one year.
  - A. Develop hourly profiles of the temperature, humidity, and air changes within Independence Hall.
  - B. Define occupancy.
  - C. Profile outside climate.
  - D. Collect local degree hours (indication of heating requirements for buildings determined from a benchmark of 65 degrees F minus the outdoor temperature for that hour).
- III. Evaluate present building/col-lection conditions and determine location and extent of deterioration.
- IV. Develop yearly profile of energy usage and cost, and analyze the building envelope in relation

- to energy conservation and pre-servation.
- V. Analyze collected information.
  - A. Compare energy consumption to occupancy and climate.
  - B. Determine optimum environ-ment for preservation of structure.
  - C. Estimate energy consumption and costs for maintaining nonpreservation environment.
  - D. Determine difference in en-ergy consumption and costs between preservation and nonpreservation environment.
  - E. Recommend range of environ-ment to be maintained for each purpose: people, arti-facts, and architecture.
  - F. Recommend environment that satisfies all three purposes simultaneously.
- VI. Recommend a heating, ventilating and air conditioning (HVAC) de-sign that maintains the environ-ment noted above in the most en-ergy efficient manner.
- VII. Continue the monitoring program for the first year of the HVAC design and a reduced monitoring program in subsequent years.

Instrumentation to accomplish the above tasks has been purchased. After it is received and installed, environ-mental monitoring will begin.

Several steps have been taken to initiate the study. First, a meeting of park personnel familiarized the staff with the purpose and scope of the project. Maintenance, historic preservation, interpretation, and curatorial staff were represented. Constructive input from each of these groups will be necessary during the study. For example, when visitors question the monitoring system in Independence Hall, a park interpreter should be on hand to explain the study. Future meetings of this type

are planned during the project. Secondly, instrumentation was identi-fied and purchased to accomplish many of the functions noted in the scope of work. Again, this was done with input from knowledgeable park employees. The instrumentation includes recording hygrothermographs, a solar pyranometer, visible and ul-traviolet light meters, and tempera-ture, dew point, and moisture meters. The location of the instruments will be as follows:

<u>Instrument</u>	<u>Location</u>
Recording hygro-thermographs	Main rooms, attic, air ducts
Solar pyranometer	Bell tower
Visible and ultra-violet light meters	Hand held meters for portability and conven-ience to take measurements throughout the building
Temperature, dew point, and moisture meters	

With the data collected from these in-struments and the use of the micro-computer for data analysis, a compre-hensive view of the internal environ-ment of Independence Hall will be generated. After this is accomplished and analyzed, recommendations for changes to the HVAC system can be determined. The development of this specific program for Independence Hall will be a tremendous aid in developing similar programs for other buildings in the national parks.

Comments and suggestions are welcome and should be addressed to the author at the Mid-Atlantic Regional Office.  
**CRM**

The author is a Mechanical Engineer for the Mid-Atlantic Region.

work progressed. Objects previously reported could not be located or had been moved; weather and insect condi-tions made work extremely difficult; heavy vegetation covered the artifacts by late summer; objects located in areas of high visitor use were handled and used for tables, benches, etc., and sometimes moved more than 100 yards; Crowquill pen points used to number objects broke frequently due to many rough objects; paint used for numbering became thick from evapor-ation and frequently chipped off with-in a few days; and employees had to spend precious time during the short northern summer to resupply and hike out many miles for scheduled days off and a much needed shower. Despite the inconveniences, the program made an impressive start toward inventory-ing and preserving the artifacts.

This effort will again be funded in the summer of 1983, and with the aid of new technology, should be able to employ more durable substances (i.e., improved paints that are less subject to chipping).

The hard earned results of last sum-mer's work have given the park a val-uable cultural resources inventory and Preservation Guide. The objects can now be preserved where they are, forming a walk-through museum for hikers who retrace the footsteps of the stampedeers. Continuing research, preservation, and interpretation will assure that future visitors can share in the discovery of the many objects that remain, the last reminders of those frantic "Days of '98."

**CRM**



*Boundary line between the U.S. and Canada, Chilkoot Pass, Alaska, 1898.*

The author was an Interpretive Spe-cialist at the Klondike Gold Rush National Historical Park.

# Curatorial Comment: Planning for Park Collections

Ann Hitchcock

Most parks have collections of objects, including historic and prehistoric objects, as well as natural history specimens. For some parks, the collections have been made intentionally; for others, they are accumulations of gifts, isolated objects brought in by well meaning visitors and park staff, and other miscellaneous items that "just appeared" in a back room, most of them remaining undocumented. These unplanned and unrecorded collections are common in parks, a situation typical to those parks that lack the necessary planning documents for managing their museum collections.

Two documents, the Scope of Collection Statement and the Preservation Guide, define what a park may collect and how those collections will be preserved. These documents, however, are only part of the total park planning process, which determines the full extent of the collections management program. The following planning documents are required for National Park Service areas. Many current park plans, however, fail to take museum object resources into account and need to be amended to correct such deficiencies.

New Area Studies are conducted to assist the Department of Interior and the Congress in adding new areas to the National Park System. Object resources, if present, should be a part of this evaluation.

In rare cases, the legislation for a park will specify the preservation and interpretation of objects as a primary purpose of the park. But

more frequently, parks must rely on existing general legislative authority to collect and preserve objects, e.g., the Organic Act (1916), and the Museum Act (1955). In addition, the management and care of park resources must follow the NPS Management Policies, which have specific requirements regarding the care of collections (Ch. 5).

The Statement for Management should give a broad description of the purpose and objectives of the park collections. Particular issues and deficiencies, such as uncataloged objects, should be noted. The need for specific projects and planning documents is also indicated. The Outline of Planning Requirements lists in priority order the plans and projects identified in the Statement for Management. Collections activities that might be identified are to the writing of a Scope of Collection Statement or Collection Preservation Guide, accessioning and cataloging collections, providing a new storage area, or conducting a condition survey of the collections.

The General Management Plan identifies activities relating to two primary long-range strategies: 1) to preserve and manage park resources, and 2) to provide for interpretation and visitor use. Museum collections activities are affected by other strategies and should be identified in the General Management Plan.

The Resource Management Plan identifies and ranks important natural and

cultural resource management problems. If a park lacks a Scope of Collection Statement or catalog records, or has objects stored in conditions detrimental to their preservation, the action to correct these deficiencies should be identified in the Resource Management Plan. Many current Resource Management Plans fail to provide a thorough analysis of the condition of park collections.

The three primary documents that are prepared for collections are the Scope of Collection Statement, the Collection Preservation Guide, and the Historic Furnishings Report. These are defined in NPS-28 (Ch. 3). In addition, many parks are beginning to use a "collection condition survey" to evaluate the need for such preservation activities as conservation treatment for objects.

The planning process generates the programming and budgeting documents (Forms 10-237 and 10-238) that are needed to address the needs of park collections. Until such time as museum collections are fully integrated into park planning documents, park collections will continue to be neglected. Each of the curatorial projects described in this issue of the CRM BULLETIN is testimony of the effectiveness of the planning process in addressing the needs of museum collections.

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